Curriculum vitae

PERSONAL INFORMATION

Theodorou Georgios

₹ 75 Iera Odos, Athens 11855, Greece

△ +302105294450 **□** +306936841565

Sex: Male | Date of Birth: 04/09/1979 | Nationality: Greek

EDUCATION

05/2005-11/2009 PhD ISCED 6

Agricultural University of Athens (Greece).

Title of thesis: "Isolation of the ovine cDNAs of the genes involved in the plasminplasminogen system: their role in the mammary gland".

09/2001–08/2002 M.Sc. in Molecular Life Sciences Research

ISCED 5

King's College London, University of London (United Kingdom).

Title of MSc Research Project: "Analysis of the central oscillator in the fhy3-1 mutant of Arabidopsis thaliana".

09/1998–06/2001 B.Sc. in Biochemistry

ISCED 5

King's College London, University of London (United Kingdom).

Title of BSc Research Project: "Identification of PHY3 as a component of the circadian clock of Arabidopsis thaliana by monitoring in vivo the expression of the cab::luciferase gene reporter and by detecting the expression of the CCR2 gene in wild type and fhy3-1 mutant seedlings".

WORK EXPERIENCE

10/2017–present Agricultural University of Athens (Greece).

Assistant Professor Gene technology with application in the Animal Science field

02/2015–11/2015 Hellenic Agricultural Organisation "DEMETER" (Greece).

Postdoctoral Researcher Research project entitled: "Effect of artificial and natural rearing on qualitative

characteristics of lamb meat".

06/2013–06/2015 Agricultural University of Athens (Greece).

Postdoctoral Researcher Research project entitled: "Implementation of innovative technologies in the production of

yogurt with enhanced biofunctional properties (INNOYOG)".

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05/2012–05/2013 Biomedical Research Foundation Academy of Athens (BRFAA).

Postdoctoral Researcher Research project entitled: "The role of stochastic epigenetic interactions in the coordination

of the human antiviral response".

01/2011–05/2012 Agricultural University of Athens (Greece).

Postdoctoral Researcher Research project entitled: "Isolation of the regulatory regions of four ovine genes involved

in the regulation of plasminogen activation".

05/2010–12/2010 Università degli Studi di Milano (Italy).

Postdoctoral Researcher Research project entitled: "Effect of various nutrients on expression of plasminogen

activator related genes in adipocytes and mammary epithelial cells".

12/2002–12/2003 Imperial College London, University of London (United Kingdom).

Laboratory assistant Responsibilities: Preparing mediums and reagents for various molecular and cellular

biology experiments. Performing experiments.

CAREER AND RESEARCH INTERESTS

During the early steps of my research career I worked on the molecular characterization of the central oscillator of the circadian clock in plants as part of my undergraduate (BSc) and postgraduate (MSc) projects at King's College, University of London (2000-2002). However, my research career began in earnest with the undertaking of my doctoral thesis at the Faculty of Animal Sciences and Aquaculture of the Agricultural University of Athens on: "Isolation of the ovine cDNAs of the genes involved in the plasmin-plasminogen system: their role in the mammary gland" (2005-2009). Following the successful defense of my thesis, I participated in the COST research activity FA0802 "Feed for the Health" completing a STSM project entitled "Effect of various nutrients on the expression of plasminogen activator related genes in adipocytes and mammary epithelial cells", which was realized in the Department of Health, Animal Science and Food Safety (VESPA) of the University of Milan, where I continued my stay for a further 3 months under University of Milan funds (2010). At the same time, I received a scholarship from the State Scholarships Foundation (IKY) for postdoctoral research in Greece with a project entitled "Isolation of the regulatory regions of four ovine genes involved in the regulation of plasminogen activation" (2011), which I completed successfully at the Department of Animal Sciences and Aquaculture of AUA. Furthermore, I participated in a NADIR transnational access program (FP7, 2007-2013) by completing an action entitled "Analysis of allelic polymorphism at the MHC class II DRB1 locus in Greek dairy sheep breeds and its relationship with parasite resistance" (2012). During my employment as a postdoctoral researcher at the Agricultural University of Athens I also participated in three privately funded research projects: "Study of iron bioavailability in dairy products", funding company: Biokid, (2010-2012), "The biological value of soy", funding company: JSK Hellas, (2011-2012), "The effect of vitamin E in the antioxidant capacity of dairy cows", funding company: DSM Nutritional Products, (2011-2012).

My next research step included my participation as a postdoctoral researcher in the project funded by GSRT entitled:

"The role of stochastic epigenetic interactions in the coordination of the human antiviral response (STOCHAGEN)" and realized at the Biomedical Research Foundation Academy of Athens (BRFAA) (2012-2013). My participation in the said project greatly enhanced my knowledge in molecular biology techniques. I then returned to the Department of Animal Breeding and Husbandry in order to participate as a postdoctoral researcher in the project funded by GSRT entitled "Application of innovative technologies in the production of yoghurt with increased biofunctional properties". My main role in this project was the evaluation of the immunomodulatory properties of yoghurt through the effect of its peptides on the gene expression of cytokines in immunocompetent cells. Finally, in 2015 I completed my first research project as a principal investigator. The project was entitled: "Effect of artificial and natural rearing on qualitative characteristics of lamb meat", was funded by the Ministry of Reconstruction of Production, Environment and Energy (YPAPEN), under the Action "AgroETAK: Research and Technology Development Innovation projects" and was implemented by the Hellenic Agricultural Organization "DEMETER". The focus of this project was the evaluation of lamb meat quality through gene expression as well as the effect of artificial rearing on the transcriptome of adipose tissue.

Since October 2017 I am serving as Assistant Professor of Gene Technology with applications in the Animal Science field at the Δ epartment of Animal Science of the Agricultural University of Athens.

My research interests are focused, but not limited, on the regulation of gene expression and the epigenetic effects mediated by rearing and nutritional manipulations in production animals. In addition, I am interested in the mechanisms of action of bioactive ingredients of animal products of mainly dairy origin as well as research topics of molecular physiology and pathology of the mammary gland.

PUBLICATIONS IN PEER-REVIEWED SCIENTIFIC JOURNALS

- 1) Allen T., Koustenis A., <u>Theodorou G.</u>, Somers D.E., Kay S.A., Whitelam G.C., Devlin P.F. 2006. Arabidopsis FHY3 specifically gates phytochrome signaling to the circadian clock. Plant Cell. 18:2506-2516.
- 2) <u>Theodorou G.,</u> Kominakis A., Rogdakis E., Politis I. 2007. Factors affecting the plasmin-plasminogen system in milk obtained from three Greek dairy sheep breeds with major differences in milk production capacity. Journal of Dairy Science. 90:3263-3269.
- 3) <u>Theodorou G.,</u> Fragou S., Chronopoulou R., Kominakis A., Rogdakis E., Politis I. 2007. Short communication: study of immune parameters in three Greek dairy sheep breeds during the periparturient period. Journal of Dairy Science. 90:5567-5571.
- 4) <u>Theodorou G.</u>, Bizelis I., Rogdakis E., Politis I. 2009. The ovine urokinase plasminogen activator and its receptor cDNAs: molecular cloning, characterization and expression in various tissues. Gene. 443:158-169.
- 5) <u>Theodorou G.</u>, Bizelis I., Rogdakis E., Politis I. 2010. The ovine plasminogen activator inhibitors type 1 and 2 cDNAs: molecular cloning, characterization and expression in various tissues. Gene. 454:20-30.
- 6) <u>Theodorou G.,</u> Daskalopoulou M., Chronopoulou R., Baldi A., Dell'Orto V., Politis I. 2010. Acute mastitis induces up-regulation of expression of four plasminogen activator-related genes by monocytes and neutrophils in dairy ewes. Veterinary Immunology and Immunopathology. 138:124-128
- 7) <u>Theodorou G.,</u> Lampidonis A.D., Laliotis G.P., Bizelis I., Politis I. 2011. Expression of plasminogen activator related genes in the adipose tissue of lactating dairy sheep in the early post-weaning period. Journal of Animal Physiology and Animal Nutrition. 96(3):403-7.

- 8) <u>Theodorou G.,</u> Pecorini C., Rebucci R., Saccone F., Lecchi C., Politis I., Baldi A. 2011. Effect of growth factors and lactogenic hormones on expression of plasminogen activator-related genes and cell proliferation in a bovine mammary epithelial cell line. Journal of Dairy Research. 78(3):365-72.
- 9) Lampidonis A.D., <u>Theodorou G.</u>, Pecorini C., Rebucci R., Baldi A., Politis I. 2011. Cloning and functional characterization of the 5' regulatory region of ovine PLAU (u-PA) and SERPIN1 (PAI-1). Gene. 489(1):11-20.
- 10) Politis I., <u>Theodorou G.</u>, Lampidonis A.D., Chronopoulou R., Baldi A. 2011. Soya protein hydrolysates modify the expression of various pro-inflammatory genes induced by fatty acids in ovine phagocytes. British Journal of Nutrition. 108(7):1246-1255.
- Politis I., <u>Theodorou G.</u>, Lampidonis A.D., Kominakis A., Baldi A. 2012. Short communication: Oxidative status and incidence of mastitis relative to blood α-tocopherol concentrations in the postpartum period in dairy cows. Journal of Dairy Science. 95(12):7331-7335.
- 12) <u>Theodorou G.,</u> Papadomichelakis G., Tsiplakou E., Chronopoulou R., Zervas G., Politis I. 2014. Association of dietary soy with expression of various pro-inflammatory genes in porcine phagocytes. International Journal of Health, Animal science and Food safety 1:1-8.
- Simitzis P.E., Papadomichelakis G., Tsiplakou E., <u>Theodorou G.</u>, Zervas G., Politis I. 2014. Effect of dietary protein source on piglet meat quality characteristics. International Journal of Health, Animal science and Food safety 1:15-26.
- 14) <u>Theodorou G.,</u> Papadomichelakis G., Tsiplakou E., Lampidonis A.D., Chadio S., Zervas G., Politis I. 2015. Effects of soyabean meal- or whey-based diets on lipid metabolism in weaned piglets. Journal of Animal Physiology and Animal Nutrition. 99(1): 92-99.
- 15) Charismiadou M., Karla G., <u>Theodorou G.</u>, Goliomytis M., Politis I. 2015. The effect of health status of the udder on plasminogen activator activity of milk somatic cells in ovine milk. Small Ruminant Research 133: 54–57.
- Spetsarias S., Koutsouli P., <u>Theodorou G.</u>, Theodoropoulos G., Bizelis I. 2016. Allelic polymorphism of Ovar-DRB1 exon2 gene and parasite resistance in two dairy sheep breeds. International Journal of Health Animal Science and Food Safety. 3(1): 1-19.
- 17) <u>Theodorou G.,</u> Politis I. 2016. Effects of peptides derived from traditional Greek yoghurt on expression of pro- and anti-inflammatory genes by ovine monocytes and neutrophils. Food and Agricultural Immunology. 27: 484-495.
- Politis I., <u>Theodorou G.</u> 2016. Angiotensin I-converting (ACE)-inhibitory and anti-inflammatory properties of commercially available Greek yoghurt made from bovine or ovine milk: A comparative study. International Dairy Journal. 58: 46-49.
- 19) Paraskeuas V., Fegeros K., Hunger C., <u>Theodorou G.</u>, Mountzouris K. 2017. Dietary inclusion level effects of a phytogenic characterized by menthol and anethole on broiler growth performance, biochemical parameters including total antioxidant capacity and gene expression of immune related biomarkers. Animal Production Science 57:33-41.
- 20) Palamidi I., Paraskeuas V., <u>Theodorou G.</u>, Breitsma R., Schatzmayr G., Theodoropoulos G., Fegeros K., Mountzouris K. 2017. Effects of dietary acidifier supplementation on broiler growth performance, digestive and immune function indices. Animal Production Science. 57:271-281.
- 21) Pilotto A., Savoini G., Baldi A., Invernizzi G., De Vecchi C., <u>Theodorou G.</u>, Koutsouli P., Politis I. 2016. Short communication: Associations between blood fatty acids, β-hydroxybutyrate and α-tocopherol in the periparturient period in dairy cows: an observational study. Journal of Dairy Science. 99:8121-8126.
- 22) <u>Theodorou G.,</u> Politis I. 2016. Leucocyte expression of genes implicated in the plasminogen activation cascade is modulated by yoghurt peptides. Journal of Dairy Research. 83:360-365.
- Koutsouli P., Simitzis P., <u>Theodorou G.</u>, <u>Massouras Th.</u>, Bizelis I., Politis I. 2017. The effect of milking frequency reduction from twice to once daily on mammary physiology and animal welfare of two dairy Greek sheep breeds. Small Ruminant Research. 147:18-24.
- 24) Moschopoulou E., Sakkas L., Zoidou E., <u>Theodorou G.</u>, Sgouridou E., Kalathaki C. Liarakou A., Chatzigeorgiou A., Politis I., Moatsou G. 2018. Effect of milk kind and storage on the biochemical, textural and biofunctional characteristics of set-type yoghurt. International Dairy Journal. 77: 47-55.

- Zoidis E., Papadomichelakis G., Pappas A.C., <u>Theodorou G.</u>, Fegeros K. 2019. Effects of Selenium and Cadmium on Breast Muscle Fatty-Acid Composition and Gene Expression of Liver Antioxidant Proteins in Broilers. Antioxidants, E147. doi: 10.3390/antiox8050147.
- Zoidou E., Theodorou S., Moschopoulou E., Sakkas L., <u>Theodorou G.</u>, Chatzigeorgiou A., Politis I., Moatsou G. 2019. Set-style yoghurts made from goat milk bases fortified with whey protein concentrates. Journal of Dairy Research. 86(3):361-367. doi: 10.1017/S0022029919000499.
- 27) Stefos G.C., Theodorou G., Politis I. 2019. DNA G-quadruplexes: functional significance in plant and farm animal science. Animal Biotechnology. doi: 10.1080/10495398.2019.1679823.
- Tsevdou M, Theodorou G, Pantelaiou S, Chatzigeorgiou A, Politis I, Taoukis P. 2020. Impact of Type and Enzymatic/High Pressure Treatment of Milk on the Quality and Bio-Functional Profile of Yoghurt. Foods. 9(1). pii: E49. doi: 10.3390/foods9010049.
- 29) Tarsani E., Theodorou G., Palamidi I., Kominakis A. 2020. Identification of Candidate Genes for Body Weight in Broilers Using Extreme-Phenotype Genome-Wide Association Study. International Journal of Genetics and Genomics (IJGG). 8(1):29-40.

PRESENTATIONS IN INTERNATIONAL SCIENTIFIC MEETINGS

- 1) Annual Main Meeting of the Society for Experimental Biology, Glasgow, Scotland, March 31 April 4, 2007. Arabidopsis FHY3 specifically gates phytochrome signalling to the circadian clock. Devlin P., Allen T., Koustenis A., Theodorou G., Somers D., Kay S., Whitelam G.
- 2) 61st Annual Meeting of the European Association for Animal Production. Heraklion, Greece. August 23-27, 2010. Upregulation of plasminogen activator-related genes in ovine macrophages and neutrophils during mastitis. Theodorou G., Daskalopoulou M., Chronopoulou R., Baldi A., Dell'Orto V., Rogdakis E., Politis I.
- 3) 19th Congress of Animal Science and Production Association A.S.P.A. Cremona, Italy. June 7-10, 2011. Effect of hormones and growth factors on cell proliferation and expression of urokinase related genes in a bovine mammary epithelial cell line. Theodorou G., Pecorini C., Rebucci R., Saccone F., Lecchi C., Fusi E., Politis I., Pinotti L.
- 4) IDF 7th International Symposium on Sheep, Goat and other non-Cow Milk. Limassol, Cyprus. March 23-25, 2015. Angiotensin I-converting (ACE)-inhibitory and/or anti-inflammatory effects in commercially available Greek yoghurt made from bovine or ovine milk. Theodorou G., Bizelis I., Politis I.
- 5) 29th EFFoST International Conference. Athens, Greece. November 10-12, 2015. The impact of milk origin, composition and enzymatic/high pressure processes to the quality and bio-functional properties of acid gels. Tsevdou M.S., Theodorou G., Markantoni M., Pantelaiou S., Giannoglou M., Platakou E., Hatzigeorgiou A., Politis I., Taoukis P.S.
- 6) 4th International Symposium in Aquaculture, Genomics in Aquaculture (GIA). Athens, Greece. April 19-22, 2016. Learning ability of european seabass and expression of related genes in the brain. Diakos E, Batzina A, <u>Theodorou G.</u>, Karakatsouli N.
- 7) International Symposium on Fish Nutrition and Feeding. Sun Valley, Idaho, USA. June 5-10, 2016. The effects of dietary inclusions of vitamin D3 associated to cyp27a1, antioxidant enzymes and non-infectious systemic granulomatosis in meagre (Argyrosomus regius). Cotou E., Fountoulaki E., Hager-Theodorides A.L., <u>Theodorou G.</u>, Tsertou M., Loukanari T., Katharios P., Kounna C.
- 8) International Conference on Nutraceuticals and Functional Foods. Kalamata, Greece. July 7-9, 2016. The Effect of Milk Origin, Composition and Enzymatic/High Pressure Processes on the Anti- hypertensive and Immunomodulatory Properties of Yoghurt. Tsevdou M., Theodorou G., Markantoni M., Giannoglou M., Platakou E., Hatzigeorgiou A., Politis I., Taoukis P.
- 9) 67th Annual Meeting of the European Association for Animal Production. Belfast, UK. August 29 September 2 2016. Theodorou G., Tsiplakou E., Papadomichelakis G., Politis I., Christodoulou V., Zervas G. Effect of artificial rearing on fatty acid metabolism and adipogenesis in lambs.

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10) 15th European Poultry Conference. Dubrovnik, Croatia. September 17 – September 21 2018. Tarsani E., Kominakis A., Theodorou G., Palamidi I. Exploiting extreme phenotypes to investigate haplotype structure and detect signatures of selection for body weight in broilers.

PARTICIPATION IN SCIENTIFIC MEETINGS FOLLOWING INVITATION

- 1) 2nd Feed for Health meeting. Tromso, Norway. June 14-15, 2010. Effect of bioactive milk peptides from bovine milk on activation of T-cells at different stages of immune system maturation. Theodorou G., Politis I.
- 2) 1st Early Stage Researcher Workshop, Barcelona, Spain. June 7-8, 2012. Expression of urokinase related genes in relation to bovine mammary epithelial cell proliferation. Theodorou G., Pecorini C., Rebucci R., Saccone F., Lecchi C., Politis I., Baldi A.
- 3) 67th Annual Meeting of the European Association for Animal Production. Belfast, UK. August 29 September 2 2016. Lipid mobilization, immune system and vitamin E in transition cows: an old story revisited. Politis I., Theodorou G.

SCHOLARSHIPS

2010 COST Short-Term Scientific Mission for Action FA0802"Feed for Health".

Funding Agency: COST (European Cooperation in Science and Technology).

2010 "Scholarship F/93/10" for the 61st Annual meeting of the European Association for Animal Production

(EAAP).

Funding Agency: EAAP.

2011 Scholarship for postdoctoral research in Greece.

Funding Agency: State Scholarship Foundation of Greece (IKY)

2012 NADIR (The Network of Animal Disease Infectiology Research Facilities) Transnational Access Project.

Funding Agency: Seventh Framework Programme for Research and Technological Development

(FP7/2007-2013). Grant Agreement No. 228394.

PARTICIPATION IN RESEARCH PROGRAMS _

2010-2012 Privately funded program. Title of project: "Iron bioavailability in dairy products".

Funding company: Biokid. Funding budget: 50,000 € Role: Postdoctoral researcher.

2011-2012 Privately funded program. Title of project: "The biological value of soy".

Funding company: JSK Hellas. Funding budget: 5,000 € Role: Postdoctoral researcher.

2011-2012 Privately funded program. Title of project: "The effect of vitamin E in the antioxidant capacity of dairy

cows".

Funding company: DSM Nutritional Products.

Funding budget: 25,000 € Role: Postdoctoral researcher.

2012-2013 In the framework of the action "ARISTEIA". Title of project: "The role of stochastic epigenetic interactions in the coordination of the human antiviral response".

Funding Agency: General Secretariat for Research and Technology (GSRT).

Funding budget: 315,000 € Role: Postdoctoral researcher.

2013 – 2015 In the framework of the action "SYNERGASIA 2011". Title of project: "Implementation of innovative

technologies in the production of yogurt with enhanced biofunctional properties (INNOYOG)".

Funding Agency: General Secretariat for Research and Technology (GSRT).

Funding budget: 1,000,000 €(total), 110.000 €(amount corresponding to Laboratory of Animal Breeding and Husbandry).

Role: Postdoctoral researcher.

In the framework of the action "AgroETAK: Research and Technology Development Innovation projects".

Title of project: "Effect of artificial and natural rearing on qualitative characteristics of lamb meat". Funding Agency: Ministry of Reconstruction of Production, Environment and Energy (YPAPEN).

Funding budget: 32,485 € Role: Principal Investigator.

2017 - 2019 In the framework of the Operational Programme "Human Resources Development, Education and Lifelong

Learning 2014-2020" under the call "Support of Researchers with an Emphasis in Young Researchers". Title of project: "Genome Wide Association Scanning and Gene Network Analysis of Body Weight in broilers".

Funding Agency: co-financed by Greece and the European Union (European Social Fund- ESF)

Funding budget: 56,350 €

Role: Investigator.

2018 - 2021 In the framework of the action: "Supporting small and medium-sized enterprises for research projects in the

agri-food, health and biotechnology sectors". Title of project: "Innovative utilization approaches and comparative advantages of Cheese Whey of ovine/caprine origin from the region of Epirus"

Funding Agency: Regional government (Epirus-Greece)

Funding budget: 300,000 €(total), 50.000 €(amount corresponding to AUA).

Role: Investigator

2018-2021 Scholarship for the preparation of a doctoral dissertation by Ms. Eleni Dalaka

Funding Agency: State Scholarship Foundation

Role in the project: Supervisor

Program: NSRF Doctoral Scholarships

2020 - 2021 In the framework of the Operational Programme "Human Resources Development, Education and Lifelong

Learning 2014-2020" under the call "Support of Researchers with an Emphasis in Young Researchers". Title of project: "Development of subclinical mastitis screening tests for small ruminants with laboratory and

point of care application".

Funding Agency: co-financed by Greece and the European Union (European Social Fund- ESF)

Funding budget: 45,500

Role: Principal Investigator.

2020 - 2023 In the framework of the Operational Program "Competitiveness, Entrepreneurship and Innovation", under

the call "RESEARCH – CREATE – INNOVATE". Title of project: "Acid whey from yogurt: Turning an

environmental burden into innovative added value end products".

Funding Agency: General Secretariat for Research and Technology (GSRT). Co-financed by the European

Union and Greek national funds.

Funding budget: 1,000,000 €(total), 220.000 €(amount corresponding to AUA).

Role: Coordinator.

2020 - 2023 In the framework of the Operational Program "Competitiveness, Entrepreneurship and Innovation", under the call "RESEARCH – CREATE – INNOVATE". Title of project: "Use of microalgae in the production of novel yoghurt-type products".

Funding Agency: General Secretariat for Research and Technology (GSRT). Co-financed by the European Union and Greek national funds.

Funding budget: 638,000 €(total), 50.000 €(amount corresponding to Laboratory of Animal Breeding and Husbandry).

Role: Principal Investigator for Laboratory of Animal Breeding and Husbandry.

TEACHING EXPERIENCE

2016-2018 Independent teaching of the undergraduate course entitled «Pathophysiology of reproduction». Laboratory of Anatomy and Physiology of Farm Animals, Department of Animal Science and Aquaculture.

2017-present Independent teaching of the undergraduate course entitled «Biotechnological Applications in Animal Science». Laboratory of Animal Breeding and Husbandry, Department of Animal Science.

2017-present Independent teaching of the undergraduate course entitled «Principles of Cellular and Molecular Biology».

Laboratory of Animal Breeding and Husbandry, Department of Animal Science.

2017-present Independent teaching of the undergraduate course entitled « Livestock Production Systems ». Laboratory of Animal Breeding and Husbandry, Department of Animal Science.

2017-present Independent teaching of the undergraduate course entitled «Physiology of reproduction and lactation in farm animals». Laboratory of Animal Breeding and Husbandry, Department of Animal Science.